

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-17 (Cancelled)

18. (New) A process for producing synthesis gas, the process including
in a gasification stage, gasifying a carbonaceous feedstock in the presence of steam and oxygen and at a temperature below an ash fusion temperature of the carbonaceous feedstock to provide a raw synthesis gas which includes at least H₂, CO, CH₄, higher hydrocarbons, tars and solids;

feeding the raw synthesis gas, including higher hydrocarbons, tars and solids, to a partial oxidation stage; and

in the partial oxidation stage, partially oxidising the CH₄ to produce CO and H₂ and cracking and combusting the tars and higher hydrocarbons by subjecting the raw synthesis gas to partial oxidation in the presence of oxygen thereby to provide an upgraded synthesis gas which is substantially free of heavier hydrocarbons and which includes less CH₄ than the raw synthesis gas.

19. (New) The process as claimed in claim 18, in which the raw synthesis gas is subjected to partial oxidation at a temperature above the ash fusion temperature, and in which the solids are thus removed as a molten slag from the partial oxidation stage.

20. (New) The process as claimed in claim 18, in which the partial oxidation stage is a non-catalytic, thermal partial oxidation stage.

21. (New) The process as claimed in claim 20, in which the thermal partial oxidation is effected at a temperature of between about 1000 °C and about 1600 °C.

22. (New) The process as claimed in claim 18, in which the carbonaceous feedstock is gasified in a moving bed gasifier.

23. (New) The process as claimed in claim 18 which includes subjecting the upgraded synthesis gas to a water-gas shift reaction stage to provide a hydrogen enriched synthesis gas with a more desirable molar ratio of H₂ and CO.

24. (New) The process as claimed in claim 23, which includes, in a cooling stage, cooling the upgraded synthesis gas and producing steam at a pressure of at least 34 bar prior to subjecting the upgraded synthesis gas to the water-gas shift reaction stage.

25. (New) The process as claimed in claim 23, which includes, in a cooling stage, cooling the hydrogen enriched synthesis gas and producing steam at a pressure of at least 34 bar.

26. (New) The process as claimed in claim 18, which includes, in a reforming stage, reforming of steam and a methane-containing feedstock and combining a product stream of the reforming stage with the upgraded synthesis gas.

27. (New) The process as claimed in claim 26, in which the reforming stage is a gas-heated reforming stage in which the upgraded synthesis gas is cooled whilst supplying energy to the reforming stage.

28. (New) A process for producing a synthesis gas derived product, which process includes

producing a synthesis gas in a process as claimed in claim 18; and

in a synthesis gas conversion stage, converting the synthesis gas to a synthesis gas derived product.

29. (New) The process as claimed in claim 28, in which the synthesis gas conversion stage is a Fischer-Tropsch hydrocarbon synthesis stage.

30. (New) The process as claimed in claim 28, in which in the synthesis gas conversion stage, a product gas is formed which includes CH_4 , the process further including separating the CH_4 from the product gas and recycling the separated CH_4 to the partial oxidation stage.

31. (New) The process as claimed in claim 28, in which the process for producing synthesis gas includes, in a reforming stage, reforming of steam and a methane-containing feedstock, the process for producing a synthesis gas derived product including, in the synthesis gas conversion stage, forming a product gas which includes CH_4 , the process for producing a synthesis gas derived product further including separating the CH_4 from the product gas and recycling the CH_4 to the reforming stage.